

XIII FEMALE GENITALIA AND BREASTS



HOWARD A. KELLY



MAX BROEDEL

THE COLLABORATION OF KELLY AND BROEDEL

From 1894 to 1910, the collaboration of Howard A. Kelly, the gynecologist, and Max Broedel, the medical illustrator, resulted in tremendous advances in both the science of gynecology and the art of medical illustration. Lured by Kelly from Leipzig to Baltimore at age 24, Broedel made illustrations over the next 15 years primarily for Kelly, who was chairman of the Department of Gynecology at Johns Hopkins University School of Medicine. The illustrations appeared in Kelly's *Operative Gynecology* in 1898 and 1906, *Medical Gynecology* in 1908, and several other books, setting a standard of unprecedented quality. Broedel achieved expertise for two reasons. First, he was a competent scientist, as well as artist, who learned anatomy with his own scalpel, and knew well what he drew. Second, Kelly was a competent artist as well as scientist, who made superb diagrams with

his own pencil, and could direct Broedel's efforts. Each man affords fascinating study.

To illustrate well, Broedel believed, "the artist must first fully comprehend the subject matter from every standpoint: anatomical, topographical, histological, pathological, medical, and surgical" (Broedel, 1933). A year before his death, Broedel wrote an essay entitled "Medical Illustration," from which the following is quoted:

I dissected and injected the pelvic and abdominal organs many times. No drawing was made by me without original study by injection, dissection, frozen section, or reconstruction. When variations in adult forms puzzled the eye, the study of embryology gave the key. Many embryos and fetuses were injected, dissected, sectioned, and studied. (Broedel, 1941)

Kelly encouraged Broedel to make original investigations to clear up obscure points, and Broedel was appreciative:

That meant temporary cessation of illustrative output until the question could be answered. He never failed to give consent to such digressions. Few authors of medical books will do that. Without his sympathetic attitude we could not have learned our trade as we did. (Broedel, 1933)

Thomas S. Cullen, the second professor of gynecology at Hopkins and friend of Broedel, described him as "a born investigator," giving this account:

On one occasion Dr. Kelly wanted some anatomical data about the blood supply of the kidney. Broedel would go to the autopsies in the Pathological Laboratories, get a normal looking kidney, attach it by a tube to the tap, and wash out the kidney. He would then fill the arteries of the kidney with red, the veins with blue, and the ureter with yellow. Next he would digest the kidney, using the digesting method he had seen Mall use in Ludwig's laboratory in Leipzig. The results he obtained were fascinating. (Cullen, 1945)

Another major reason Broedel achieved expertise in medical illustration is that Kelly was a talented draftsman himself and an excellent teacher. According to Broedel,

He had a way of making little modest outline sketches when he explained his operative procedure to his illustrators . . . every clinical phenomenon, every operative procedure flowed in simple eloquent lines from the end of his pencil. Few medical men can do that. (Broedel, 1933)

When Kelly was operating, Broedel would visit the operating room and confer with him. Kelly might ask Broedel to sketch a specimen or a new surgical technique, and if the subject was unclear, Kelly would make a few strokes with a pencil and Broedel would see his intention and begin. The young German knew he was fortunate to have an excellent teacher:

He could see that my ignorance in medical matters was a handicap to me. I felt sure that I could draw what I understood but found it exceedingly hard to plan a picture so that any one, even a layman, could understand it. It was difficult for me to select the most suitable view, to determine what to show and how to show it, what to emphasize and what to subdue or leave out. This is where I hesitated and wasted time, as every

novice does. It was lucky for me that Dr. Kelly had the remarkable gift of explaining with sketches. In a few simple, but graphic lines, he could show all the new ideas in connection with his operative work. There is no question that Dr. Kelly's genius for visualization and for sketching paved the way for his illustrators. (Broedel, 1941)

Thus the collaboration of Kelly and Broedel was mutually beneficial. Just as Broedel claimed for medical illustration that "each book marked an advance in our method of approach and technic" (Broedel, 1933), Kelly could claim that each book marked an advance in the practice of gynecology.

—CHARLES STEWART ROBERTS

REFERENCES

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An Overview of the Female Genitalia and Breasts

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The term *gynecology* connotes the study of, practice on, and teaching about human femaleness. As commonly used, the word refers to the branch of medicine focusing on physiology, pathology, and therapy of breasts and female genitalia. The practitioner, however, does well to approach the problems of the patient with the former definition in mind. The patient is a human being but also a girl or a woman. Not only that, but her complaint may involve an area or experience that she has been trained to keep hidden from everybody, even herself.

Management of this interpersonal encounter to many physicians, women as well as men, seems quite difficult. A practitioner needs to break down the wall between patient and doctor through several steps:

1. Seeking out and recognizing his or her own inhibitions.
2. Developing sensitivity to the patient's shyness, anxieties, and taboos.
3. Imagining that each patient is his or her mother or sister and exerting great effort to dispel her fear of pain.
4. Acknowledging that he or she is invading the patient's privacy.
5. Starting by taking a general medical and family history, helping the patient to begin talking before moving to the specific gynecologic complaint.
6. Asking leading questions in sensitive areas such as anorgasmia, assuming an attitude that problems of this type are rather common.

History taking, save in a dire emergency, must be conducted in a nonhurried, nonthreatening way with the patient fully dressed, sitting in a comfortable chair across the desk from the physician.

Table 168.1 lists equipment needed for the gynecologic examination. Ordinarily, women prefer draping of breasts and pelvis but the physician should be accommodating to slight variations requested by the patient, thus giving her a sense of participation and some control of the examination. A chaperon is necessary but may be in the next room separated by a glass window. Chaperons may be engaged in other activities but must be in auditory contact.

Table 168.1
Equipment Used in the Gynecologic Examination

Examining table with stirrups
Spotlight and adjustable mirror
Suitable linen for draping
Sterile gloves
Lubricating jelly
Graves bivalve speculum, medium and large
Pederson bivalve speculum
Ayers spatula with sterile cotton-tipped applicators
Microscope slides and cover slips
Reagents: normal saline, potassium hydroxide, alcohol-ether fixative
Thayer-Martin media and jars of carbon dioxide
Acetic acid for culdoscopy
Cryosurgical unit
Schillers reagent
Thermal cautery

Physical examination begins with vital signs followed by general review. The practitioner is never flippant—serious but gentle—and comments whenever a system review is found to be normal.

Constant talking by the physician doing the examination is irritating, but brief explanations as the examination is being made is reassuring. Wherever possible, patients should see what is occurring, for example, by mirror to see the cervix.

Pain should be avoided, but if it is inevitable, the patient should be told in advance. For instance, in a case where endometriosis is suspected, the painful examination should be as brief as possible.

Many women come to a gynecologist carrying a lot of ambivalence, even hostility. In relating to all patients, as well as the above, the physician should convey the message that the questions being asked and the examination are very important, and visits need to be repeated on a yearly basis. Above all, avoid the impression that the task is cursory, trivial, or boring.

Finally, the gynecologist should be a friendly adviser who is unhurried and who answers questions, reassures, and comforts.